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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/766,815	01/22/2001	Albert Wurz	ASI-PT009.3	2163

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EXAMINER

PHAM, HOA Q

ART UNIT PAPER NUMBER

2877

DATE MAILED: 09/11/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/766,815

Applicant(s)

WURZ ET AL.

Examiner

Hoa Q. Pham

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 August 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

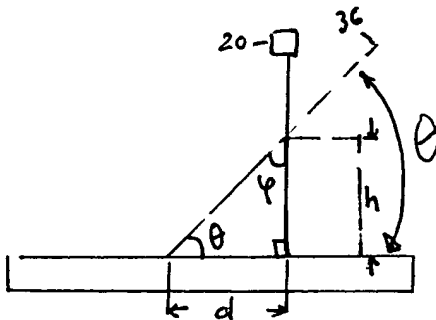
(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 2-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rioux (4,627,734) in view of Schmutz (5,555,090) and Amir (4,965,665).

Regarding claims 2-3, 16-17, 18-19, and 21-27; Rioux discloses a system for determining the three dimensional shape of an object comprising a light source (s), a mirrored wheel (M3), the reflected light (11, 11a) from the wheel defined a path generally perpendicularly to the light beam (10), a reflecting surface (M6) oriented to receive the light beam that reflected off of the mirrored wheel and to redirect the light beam toward the reference surface such that the path defined by the light beam extends generally across the width of the surface (20), wherein the light beam impacts the surface (20) at a nonzero angle relative to a perpendicular extending therefrom (see figures 4, 8, and 11). Rioux does not explicitly teach that the object to be inspected is moved by a conveyor and the optical inspection system is located on a chassis. However, such a feature is known in the art, for example, as taught by Schmutz. Schmutz, from the same field of endeavor, discloses a system for measuring the dimensions of an object in which the object is moved on a conveyor and the inspection system is located on a chassis (see figure 1). Those of ordinary skill in the art at the

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time the invention was made to use the basic device of Rioux for detecting the packages which is transferred on a conveyor as taught by Schmutz because the device would function in the same manner. Rioux does not teach that the height of the object is determined on the basis of the non-zero angle (ϕ) and the distance (d). However, such a feature is known in the art as taught by Amir. Amir, from the same field of endeavor, teaches that the height (h) of an object (14) is determined on the basis of non-zero angle (ϕ) and the distance (d) ($h=\tan\phi.d$) (or $h=d/\tan\phi$) (see figure below) (column 4, lines 39-64). It would have been obvious to one having ordinary skill in the art at the time the invention was made to replace the height calculating method of Rioux by the method taught by Amir because they are function in the same manner.



$$h = \frac{d}{\tan \phi}$$

Regarding claims 4, 8-9 and 20, Rioux does not explicitly teach that the sensor is a line scan camera or CCD having a focus over a depth of field of at least about 300 or 900 millimeters; however, such a feature is known in the art as taught by Schmutz or Amir. Both Schmutz and Amir teach that the linear camera is used or detecting the height of an object (column 4 lines 61-62 of Schmutz or column 3, lines 1-5 of Amir). Those of ordinary skill in the art at the time the invention was made to replace the position sensitive detector of Rioux by a camera as taught by Schmutz or Amir because

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they can be used for detecting the height of an object. A substitution for each other is generally recognized as being within the level of ordinary skill in the art.

Regarding claims 5-7, Rioux does not teach that the width or the length of the object is measured. However, it would have been obvious to one having ordinary skill in the art to use the basic device of Rioux for measuring the length or width of the object if additional measurement is desired.

Regarding claims 10-13, see column 4, lines 16-17 of Rioux for Position Sensitive Detector (PSD).

2. Claims 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rioux, Schmutz and Amir as applied to claims 1-13 and 16-27 above, and further in view of Pirlet (of record) (4,171,917).

Regarding claims 14-15, Rioux does not explicitly teach that the reflecting mirror (M6) is a parabolic reflector. However, such a feature is known in the art, for example, as taught by Pirlet. Pirlet teaches the use of a concave reflector (14) for reflecting light beam onto the object. Those of ordinary skill in the art at the time the invention was made to include in or replace the reflector of Rioux by a concave reflector as taught by Pirlet because they would function in the same manner.

Response to Arguments

3. Applicant's arguments filed 8/4/03 have been fully considered but they are not persuasive.

a. Applicant's remarks argue that the references do not teach that the height is determined on the basis of the non-zero angle and a distance between the object impact points and the conveyor impact points, in other the word, using equation (1) in page 12 of the present specification. The argument is not deemed to be persuasive because such an equation for calculating height of an object is well known in the art as taught by Amir as mentioned above.

b. Regarding claims 24-27, see figure 1 of Amir, which teaches that the detector field of view remains centered about the perpendicular extending through the conveyor.

In view of the foregoing, it is believed that the rejection of claims 2-27 under 35 U.S.C 103 is proper.

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hoa Q. Pham whose telephone number is (703) 308-4808. The examiner can normally be reached on 6:30 AM to 5 PM, Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G. Font can be reached on (703) 308-4881. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



Hoa Q. Pham
Primary Examiner
Art Unit 2877

HP
September 1, 2003